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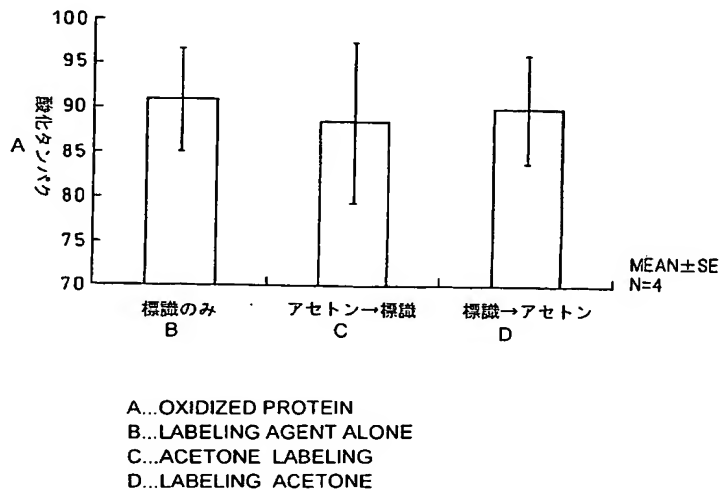
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特願2003-116157 2003 年 4 月 21 日 (21.04.2003) JP
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- (81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU,

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(54) Title: METHOD OF EVALUATING OXIDIZED PROTEIN IN HORNY CELL LAYER

(54) 発明の名称: 角層における酸化タンパク質の評価方法



(57) Abstract: It is intended to provide a method of two-dimensionally evaluating the properties of an oxidized horny cell layer protein on the horny cell layer which comprises specifically fluorescent-labeling carbonyl groups in the oxidized protein in a horny cell layer sample collected from the skin and then detecting the fluorescence to thereby conduct the evaluation; a kit to be used for carrying out the method; and a method of screening a drug inhibiting an increase in the oxidized protein. Further, it is intended to provide a method of detecting the oxidation state of cornified cell envelopes (thickened horny cell films), i.e. water-insoluble matters contained in a horny cell layer sample originating in the skin, which comprises specifically fluorescent-labeling carbonyl groups in the oxidized cornified envelopes and detecting the fluorescence to thereby conduct the evaluation.

(57) 要約: 本発明は、角層酸化タンパク質の角層上での性状を二次元的に評価する方法であって、皮膚から採取した角層試料中の当該酸化タンパク質のカルボニル基を特異的に蛍光標識し、その蛍光を検出することで評価を行う方法、及びその方法を実施するために利用されるキット、

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ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:

— 国際調査報告書

(84) 指定国 (表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY,

2 文字コード及び他の略語については、定期発行される各 *PCT* ガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

酸化タンパク質の増加を抑制する薬剤のスクリーニング方法を提供する。更に、皮膚由来の角層試料における水不溶性物質であるコーニファイドエンベロープ（角質肥厚膜）の酸化形態を検出する方法であって、当該酸化形態のコーニファイドエンベロープにおけるカルボニル基を特異的に蛍光標識し、その蛍光を検出することで評価を行う方法も提供する。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005620

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ G01N33/50, G01N21/64

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ G01N33/50, G01N21/64

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004

Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2000-125854 A (Pola Chemical Industries Inc.), 09 May, 2000 (09.05.00), (Family: none)	1-7
Y	JP 7-209292 A (Pola Chemical Industries Inc.), 11 August, 1995 (11.08.95), (Family: none)	1-7
Y	Christina S. Sander, Photoaging is Associated with Protein Oxidation in Human Skin In Vivo, Journal of Investigative Dermatology, Vol.118, No.4, pages 618 to 625, 2002	1-7

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
27 July, 2004 (27.07.04)

Date of mailing of the international search report
10 August, 2004 (10.08.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005620

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The inventions according to claims 1 to 4 relate to a method of two-dimensionally evaluating the properties of an oxidized protein on the horny cell layer, while the inventions according to claims 5 to 7 relate to a kit to be used in this method. In contrast, the inventions according to claims 8 to 14 relate to a screening method or a method of detecting the oxidized state of cornified cell envelopes, not being a two-dimensional evaluation method.

As stated in "Background of the Invention" in the description of the present case, it has been a practice to detect and evaluate an oxidized protein on horny cell layer and, therefore, (continued to extra sheet)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1 to 7.

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005620

Continuation of Box No.III of continuation of first sheet (2)

cannot be considered as a novel problem.

Thus, it does not appear that the inventions according to claims 1 to 7 and the inventions according to claims 8 to 14 are so linked as to form a single general inventive concept.